MODIS sensor Working Group (MsWG) Meeting Summary August 10, 2011

Attendance: Junqiang Sun, Aisheng Wu, Amit Angal, Brian Wenny, Chris Moeller, Gary Toller, William Barnes, Jack Xiong, Gerhard Meister, Sadashiva Devadiga, James Kuyper, Eric Vermote, Gene Eplee

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Item 1: Recent L1B LUT delivery

- Aqua C5 update – 5.0.41.0 (07/28/11) – default b1 LUT/code change
- Terra C6 science test delivery – 6.1.12.1 (07/27/11) – a0/a2 update

Item 2: Instrument status

- Terra and Aqua MODIS are in nominal operations
- Terra experienced a non-recoverable data loss due to a science formatter equipment anomaly (SFE-A). Data lost from 2011/211 07:31:49-07:41:03 (07/30/11). Anomaly occurred while spacecraft over south Pacific Ocean. Recovery from the anomaly requires power cycling the SFE during which science recording is disabled.
- Terra Band 36 Detector 7 QA – Terra experienced a repeat occurrence of an electronics-related anomaly in Band 36 detector 7 from 2011/211 16:20-20:35. Similar behaviour has been observed and reported on at prior telecons (~7 times). The result of the anomaly is periods of fill value striping in the L1B data. MCST proposed a QA status change to 'inoperable' for the duration of the anomaly for B36 D7. No objections were raised by those present. Updated QA LUTs will be delivered at next available opportunity.

Item 3: MCST recent activities

- C6 Status
  - All L1B code changes proposed for C6 have been implemented and internally validated/verified.
  - Outstanding RSB issues: 1) Band 1 & 2 Approach – meeting held Eric Vermote and Robert Wolfe to discuss the issue and possible approaches. No resolution on an approach for C6 yet. 2) Uncertainty Index – New LUTs to be completed/compiled this week and ready for delivery at next opportunity.
  - Outstanding TEB issues – 1) Terra a0/a2 approach – science testing underway by atmosphere and land groups. MCST to deliver updated LUTs to OBPG to produce SST science test data. 2) Aqua default b1 – code change implemented, LUTs generated and internally validated. To be included in next C6 delviery. 3) Uncertainty Index – LUTs generated and ready for delivery at next opportunity.
  - Outstanding QA issue – 1) LUT update for Terra B36 D7 – updated QA LUT will be included in next delivery.

Item 4: Around the Table

- Chris presented early results of science testing of the modified Terra C6 a0/a2 approach – a comparison of the IASI – MODIS matchups using C5 and the new C6 data. This was a follow-up to his presentation at the recent MODIS science team meeting. The IASI Terra MODIS intercomparisons using C5 data showed a distinct cold scene bias, particularly for the MWIR and PV LWIR bands (20-25, 27-30). These bands use on-orbit derived a0 and a2 coefficients for C5. It was found that C6 data with a0 = 0, significantly reduced or removed this bias. This result was not entirely unexpected based on previous work done comparing Aqua MODIS bands 31 & 32 and AIRS matchups (These bands used on-orbit a0/a2 in C5 with a change to a0=0 in C6 previously implemented/tested). The results for this Terra C6 version indicate good agreement

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with Aqua MODIS C6 for all TEB. Several minor issues still warrant investigation, but no major concerns are raised that preclude not using this approach for Terra C6.
Gerhard asked what impacts can be expected for the SST products. Chris/Brian responded that the change was already implemented in C6 for the 10 micron SST product bands so no change expected there, but the 4 micron SST product can expect small differences – estimated around 0.1 K at it's typical scene temperatures.

Next Meeting: ~Aug 24, 2011